This document is scheduled to be published in the
Federal Register on 06/02/2022 and available online at
federalregister.gov/d/2022-11782, and on **govinfo.gov**

E 4910-57-P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

[Docket No. FTA–2022-0012]

Request for Information on Transit Bus Automation Research and Demonstrations

AGENCY: Federal Transit Administration (FTA), Department of Transportation (DOT).

ACTION: Request for information.

SUMMARY: The Federal Transit Administration (FTA) continues to research

Advanced Driver Assistance Systems (ADAS) and Automated Driving Systems (ADS) in

public transportation use cases. In 2018, FTA completed its five-year Strategic Transit

Automation Research Plan (STAR Plan). In preparation for the next five-year plan, FTA

is issuing this request for information (RFI). This RFI seeks input from public and

industry stakeholders on the next phase of research, collaboration and engagement,

technology development, and demonstration of ADS or ADAS necessary to improve the

safe, efficient, equitable and climate-friendly provision of public transportation and

sustain the associated workforce. Comments received through this RFI will provide

critical information for FTA to develop STAR Plan 2.0.

DATES: Comments are requested by **[INSERT DATE 60 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER]**. Comments received after the

closing date will be considered to the extent practicable.

ADDRESSES: You may file comments identified by docket number FTA-2022-0012 by any of the following methods:

- Federal eRulemaking Portal: Go to https://www.regulations.gov and follow the online instructions for submitting comments.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Ave. SE, West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery or Courier: West Building Ground Floor, Room W12-140, 1200 New Jersey Ave. SE, between 9:00 a.m. and 5:00 p.m. ET, Monday through Friday, except Federal holidays.

- Fax: (202) 493-2251.

Note that all comments received will be posted without change to http://www.regulations.gov, including any personal information provided.

Privacy Act: Except as provided below, all comments received into the docket will be made public in their entirety. The comments will be searchable by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You should not include information in your comment that you do not want to be made public. You may review DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000 (65 FR 19477-78) or at https://www.transportation.gov/privacy.

FOR FUTHER INFORMATION CONTACT: Danyell Diggs, Office of Research, Demonstration, and Innovation, (202) 366-1077 or danyell.diggs@dot.gov.

SUPPLEMENTARY INFORMATION:

In January 2022, Secretary Buttigieg released USDOT's Innovation Principles, which call for experimentation and learning, collaboration, and flexibility to accommodate changing technologies, while serving the Department's policy priorities and supporting workers.[1] A major technology innovation area in surface transportation is the development and commercialization of ADAS and ADS. As a convener and facilitator, USDOT partners with a broad coalition of stakeholders to support the safe development, testing and integration of automated vehicle technologies.[2] Though automation is relatively mature in rail transit operations, the application of ADAS/ADS in transit bus operations continues to lag behind, despite its potential to enhance safety for operators, transit passengers, bicyclists, pedestrians, and those using micro-mobility devices such as scooters.[3]

FTA's transit bus automation research plan has been organized around four complementary work areas: 1) enabling research; 2) integrated demonstrations; 3) strategic partnerships; and 4) stakeholder engagement, knowledge transfer, and technical assistance. Each work area encompasses several priority topics including, but not limited to, safety, accessibility, workforce impacts, and others. **Enabling research** explores fundamental questions for the transit industry to understand the costs, benefits, opportunities, and consequences of driver assist and fully automated technologies in the transit industry and implications for safe, accessible, and sustainable operations and maintenance. **Integrated demonstrations** provide real-world, test-bed studies of market-ready or near market-ready technologies. Demonstrations provide insight into technical performance, user acceptance, and capital and operational costs and aid in the

[1] https://www.transportation.gov/priorities/innovation/us-dot-innovation-principles
[2] https://www.transportation.gov/AV
[3] SAE International has defined six levels of driving automation, ranging from L0 (no driving automation) to L5 (full driving automation: https://www.sae.org/standards/content/j3016_202104/. ADAS is generally categorized as L2 – L3 while ADS is L4 – L5.

development of standards, policies, and regulatory modernization. **Strategic partnerships** leverage the research of other agencies for applicability in the transit sphere. **Stakeholder engagement** involves broad outreach to gather input from diverse stakeholders.

To date, FTA has a number of demonstrations underway and has completed important research studies recommended in the STAR Plan. Information on all activities is available at: https://www.transit.dot.gov/automation-research.

Questions for the Public

Automation technologies have evolved and advanced within public transportation since the initial STAR Plan was published in 2018. More changes are expected as the transit industry further invests in automation solutions. To structure input and feedback to FTA on STAR Plan 2.0, please use the corresponding number and heading when providing responses to this request for information:

1. Priority Areas

   The STAR Plan 2.0 needs to reassess the priorities and areas of activity for the next five years. Examples may include workforce development, sustainability and climate impacts, guidance for investment or deployment, accessibility, cybersecurity, equity, regulations and standards, and domestic manufacturing market support, among others.

   FTA seeks information from stakeholders on:

   o What topics should be a priority for FTA's transit bus automation research and demonstrations over the next five years? What specific activities or products should be a priority for FTA within these areas?

   o For any priority areas identified, are there activities that stakeholders have

undertaken? What were the challenges? Are there specific areas where FTA engagement may be needed?

2. Enabling Research

FTA has completed extensive enabling research, including:

- o Market Analysis for Automated Transit Buses and Supporting Systems;

- o Automation Policy Review;

- o Business Case for Transit Automation;

- o Transit Bus Applications of Light and Commercial Vehicle Automation Technology;

- o Hazard and Safety Analysis of Automated Transit Bus Applications; and

- o Test Facility Requirements for Automated Transit Vehicles;

FTA seeks information from stakeholders on:

- o What specific research questions should be addressed by FTA-supported foundational research within the next five years? Possible topic areas for research include, but are not limited to, cybersecurity, equity, standards, and workforce training.

3. Integrated Demonstrations

The STAR Plan currently identifies five integrated demonstrations: Transit Bus Advanced Driver Assistance System (ADAS); Automated Shuttle; Maintenance, Yard, and Parking Operations; Mobility-on-Demand (MOD) Service; and Automated Bus Rapid Transit.

FTA seeks information from stakeholders on:

- o Are these demonstration areas still needed? What additional or alternative

demonstration areas are a priority?

- o What are the biggest successes or challenges to deploying ADAS or ADS technologies for transit?

4. Strategic Partnerships

FTA routinely collaborates with other modal agencies across USDOT and participates in the community of practice to identify cross-cutting technologies with positive applicability for the transit industry.

FTA seeks information from stakeholders on:

- o What ADAS/ADS technologies proven in other transportation applications would be useful and applicable to transit use cases? Please be specific and include examples where possible.

5. Stakeholder Engagement and Knowledge Transfer

To drive research into practice, FTA conducts multiple types of stakeholder engagement, including webinars, interviews, convening peer agencies, and presentations at conferences.

FTA seeks information from stakeholders on:

- o Are FTA's methods of stakeholder engagement sufficient? What other methods should FTA consider?

6. Workforce

Automation will not replace transit bus operators in the foreseeable future, nonetheless, transit bus automation and automated features will impact the transit workforce, including bus operators, maintenance workers, and the domestic supply chain, including bus manufacturers.

FTA seeks information from stakeholders on:

- o What activities have agencies undertaken to understand and prepare for the impacts of automation on their workforce? Please be specific and include examples where possible.

- o What types of new skills, training, and resources may be required for transit workforce development and transition?

- o What specific areas of workforce-related research should FTA consider?

- o What types of resources could FTA provide to help agencies and their workers adopt transit bus automation?

Please note, this RFI will serve as a planning document. The RFI should not be interpreted as policy, a solicitation for applications, or an obligation on the part of the Government.

Nuria I. Fernandez,

Administrator.

[FR Doc. 2022-11782 Filed: 6/1/2022 8:45 am; Publication Date: 6/2/2022]